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EXAMINER

PETKOVSEK, DANIEL J

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 03/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/877,976

Applicant(s)

PEPPER, DAVID M.

Examiner

Daniel J Petkovsek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on February 11, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-43 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 23 is/are rejected.
- 7) ☒ Claim(s) 7-22 and 24-30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. Rejections to claims 1-3, 6, and 23 to Thaniyavarn et al. '805 have been withdrawn. New rejections have been made to claims 1-6, and 23.

#### ***Allowable Subject Matter***

1. Claims 31-43 are allowed. The pertinent prior art does not teach or reasonably suggest an optical beam steering device comprising: at least one layer of electro-optically active material, the layer having a proximal end and distal end, a means for applying a voltage across the layer, a plurality of tapped output couplers, each tapped coupler disposed in an increasing distance from the proximal end, and an array of apertures, each aperture receiving an optical beam output from a corresponding tapped output coupler of the plurality of output tapped couplers. Method restrictions (claims 40-43) of same device of independent claim 31 are also allowed.
2. Claims 7-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The relevant prior art does not teach or reasonably suggest, in combination with independent claim 1, a plurality of tapped output couplers arranged in an increasing distance from the proximal end. The dependent claims 8-14 and 16-22 upon claims 7 and 15 are also objected to as being allowable, if including the base claim and any intervening claim.

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3. Claims 24-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The relevant prior art does not teach or reasonably suggest coupling the pulse stream into a layer of electro-optic material having multiple output ports, and coupling a portion of the pulse stream out of the layer at each output port, the controllable time delay function put in use by voltage control.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Paek U.S.P. No. 6,393,177.

Paek U.S.P. No. 6,393,177 teaches (Fig. 1, column 4 line 43 through column 5 line 62) an optical system comprising controllable true time delay architecture 13 coupled to the pulse microwave signal 15 (column 5 lines 55-62), a plurality of output optical pulse streams, each having controllable delay based on the chirped fiber gratings 21 and beam deflectors 23 that are used to output optical streams to the windows 25. Control of the time delay is based upon the selection of the grating beam deflector (column 3 line 57 through column 4 line 9). Regarding

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claims 2 and 3, steerable output beam deflectors are used with linear output arrays. Regarding claim 4, see column 6 lines 40-46. Regarding claim 5, see column 4 lines 53-64 for optical modulation of the input with modulator 18. Regarding method claim 23, the method is inherent from the device of Paek '177

6. Claims 1 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Labaar U.S.P. No. 5,272,484.

. Labaar U.S.P. No. 5,272,484 teaches (ABS, Claim 1) an optical system (and inherent method of using same) comprising: an optical pulsed signal 30, a selectively activated true time delay structure to introduce variable time delays in the signal path to a plurality of different outputs to the output array.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paek U.S.P. No. 6,393,177.

Paek U.S.P. No. 6,393,177 teaches (Fig. 1, column 4 line 43 through column 5 line 62) an optical system comprising controllable true time delay architecture 13 coupled to the pulse microwave signal 15 (column 5 lines 55-62), a plurality of output optical pulse streams, each

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having controllable delay based on the fiber gratings 21 and beam deflectors 23 that are used to output optical streams to the windows 25. Paek U.S.P. No. 6,393,177 does not explicitly teach that a laser source is used. Regarding claim 6, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use a laser source for the pulsed input source.

### *Conclusion*

9. Applicant's response filed on February 11, 2003 has been fully considered. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. Rejections to claims 1-3, 6, and 23 to Thaniyavarn et al. '805 have been withdrawn.

This action is made **NON-FINAL**, since new art has been used to make rejections, as well as the finality of the past office action being withdrawn. Examiner has made new rejections to claims 1-6, and 23, as fully addressed above.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: PTO-892 references B-G.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J Petkovsek whose telephone number is (703) 305-6919. The examiner can normally be reached on M-F 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 872-9321.



Daniel Petkovsek  
March 3, 2003



Brian Healy  
Primary Examiner